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Serum cytokine profiles in children with Crohn's disease

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Abstract

© 2016 Ekaterina Vasilyeva et al.Crohn's disease (CD) is a chronic inflammatory bowel disease that can be diagnosed at any age. There are two major patient groups based on diagnosis of this disease, before or after the age of 20 (juvenile/adolescent or adult), with disease progression in adults usually milder than in juvenile CD patients. Immune mechanisms have been suggested to play an important role in CD pathogenesis, with cytokines governing the development of the immune response. Upregulation of inflammatory cytokines in serum of juvenile and adult CD patients has been documented; still little is known about age-dependent differences in serum cytokine profiles of CD patients. We applied multiplex technology to analyze serum levels of 12 cytokines in juveniles and adults. We show that during the acute stage of the disease all CD patients have high serum levels of CXCL10, which remains upregulated during remission. Increased serum levels of TNF-α and IL-6 during the acute stage was characteristic of juvenile CD patients, whereas adult CD patients had upregulated levels of GM-CSF and IFN-γ. Taken together, these results demonstrate age-dependent differences in cytokine profiles, which may affect the pathogenesis of CD in patients at different ages of disease onset.

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